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LEDA at Harvard Law School



A Joint American Tradition: Hot Dogs, FDA & USDA

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Class of 2006

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Abstract

This paper discusses the relationship between three staples of American culture: the hot dog, the Food & Drug Administration (FDA) and the United States Department of Agriculture (USDA). The reader is first introduced to the hot dog and takes a fun and illustrative journey through the hot dog's storied tradition. Then, the paper addresses government regulation of hot dogs. Although hot dogs are principally regulated by the United States Department of Agriculture, FDA plays an integral role in the regulation and safety of hot dogs. Specifically, hot dogs raise many health concerns. Hot dogs contain many additives, such as sodium nitrite, and host harmful bacteria, such as *Listeria monocytogenes*, which can give rise to food-borne illness. Despite USDA regulation of the meat industry, FDA retains jurisdiction in the areas of food additives and food-borne illness, and FDA interacts with USDA and other agencies in order to address these health concerns.

Americans love their hot dogs. Although the subject of much humor, speculation, and criticism, there is little doubt that the hot dog is an American tradition. July, home of America's Independence Day, is also designated National Hot Dog Month. On July 4th weekend, Americans will consume approximately 150 million hot dogs^[1].

Few foods hold the cultural significance of the hot dog. Songs have been written about it and cars, such as the Oscar Mayer Wienermobile, made in its shape.^[2] From sports stadiums to city sidewalks to kitchens to backyards, hot dogs are one of America's favorite foods.

This paper will address the hot dog's greatest secrets and answer the many questions consumers

have about the hot dog. It will begin with a historical retreat, summarizing the different stories and legends regarding the hot dog. In part two, the paper will address the most frequently asked question: what is a hot dog? Despite much criticism, the reader will learn that the hot dog is a relatively simple food item, and is closely regulated by the Food and Drug Administration and the United States Department of Agriculture. In sections three through five, the paper will discuss how a hot dog is prepared and the different variations throughout the world. In section six, there is a quantitative assessment regarding the popularity of the hot dog. The reader will learn approximately how many hot dogs are consumed throughout the year, which cities eat the most hot dogs and which baseball fans purchase the most hot dogs each season. Last, in sections seven and eight, the paper addresses agency regulation and health. Section seven, in particular, will discuss USDA and FDA regulations, and section VIII will address consumer health concerns regarding the hot dog and the government's response to such concerns.

Overall, this paper seeks to provide a fun and entertaining perspective regarding one of America's most sensational traditions. However, at the same time, it attempts to provide an informative and factual account in response to the many important questions and issues that arise when one discusses the hot dog.

I. History of the Hot Dog

Although "the hot dog" is a relatively modern and an Americanized term, its origin and storied tradition reaches back several thousand years. First recognized as a "sausage" in Homer's *Odyssey* as long ago as the 9th Century B.C. and even some references further back to 1500 B.C. in Babylon, the hot dog is one of the oldest forms of processed food.[\[3\]](#) From there, however, the history of the hot dog is uncertain and in some respects inconsistent. In fact, there is much debate regarding the birthplace of the hot dog's ancestor, the sausage. Some credit Emperor Nero Claudius Caesar's cook, Gaius, in 64 A.D., with discovering the first sausage.[\[4\]](#) Others document the hot dog back to the 7th Century A.D. where some historians claim that the first to invent the hot dog was Leontius of Neopolis, Cyprus.[\[5\]](#)

However, these references are probably more legend than fact. Traditionally, Frankfurt-am-Main, Germany, is credited with the invention of the sausage.[\[6\]](#) In 1987, the city of Frankfurt celebrated the 500th birthday of the hot dog in that city.[\[7\]](#) Others claim, however, that Johann Georghehner, a butcher living in Coburg, Germany, invented the first sausage in the late 1600's.[\[8\]](#) In addition, the people of Vienna (Wien), Austria, point to the term "wiener" to prove their claim as the birthplace of the hot dog.[\[9\]](#)

In 1852, the butcher's guild in Frankfurt introduced a spiced and smoked sausage which was packed in a thin casing and was called a "frankfurter" after the guild's hometown.[\[10\]](#) The sausage had a slightly curved shape, designed to emulate the shape of a Dachshund dog.[\[11\]](#)

No matter the accuracy of the early history, it is likely that the North American hot dog came from a widespread common European sausage, brought over to the United States in the late 19th Century. Once in America, however, the sausage began its transformation into what Americans recognize today as the hot dog.

One difference between a sausage and a hot dog is that a sausage does not become a hot dog until the

sausage is placed into a roll or piece of bread. Not surprisingly, there is also doubt as to who first served the sausage with bread. Many historians have documented that German immigrants were seen frequently in the streets of New York City's Bowery during the 1860's, selling sausages with milk rolls and sauerkraut from a push cart.[\[12\]](#) Consequently, many credit a German butcher, Charles Feltman, who opened up the first Coney Island hot dog stand in Brooklyn, New York, as the inventor of the hot dog.[\[13\]](#) According to a Coney Island dining publication,

"In 1867 Charles Feltman owned a pie-wagon that delivered his freshly baked pies to the inns and lager-beer saloons that lined Coney Island's beaches. His clients also wanted hot sandwiches to serve to their customers. But his wagon was small and he knew that it would be hard to manage making a variety of sandwiches in a confined space. He thought that perhaps something simple like a hot sausage served on a roll might be the solution. He presented his problem to Donovan, the wheel-wright on East New York and Howard Street in Brooklyn, who had built his pie-wagon. The man saw no problem in building a tin-lined chest to keep the rolls fresh and rigging a small charcoal stove inside to boil sausages.

When the wheel-wright finished the installation they fired up the stove for a test run. Donovan thought that the sausage sandwich was a strange idea but he was willing to try it as Feltman boiled the succulent pork sausage and placed [it] between a roll. The wheel-wright tasted the it [sausage] and liked it. Thus the hot-dog was born.

In 1871 Feltman subleased a tiny plot of land on one of the big shore lots. He served hot dogs to 3,684 patrons that first season. After a few summer seasons he was successful enough to buy his own shore lot at West 10th Street from Surf Avenue to the beach where he built his Ocean Pavilion. In 1874 he paid \$7500 for the restaurant property.

The hot dog, however, didn't go unchallenged. Rumors abounded that the sausages were made of dog meat and the politicians alleged that they found a rendering plant making sausages for Coney Island out of dead horses. John Y. McKane protested that, "Nobody knows what is inside these sausages." He slapped an excise tax of \$200 on every sausage stand. "We can not dictate to a man what he must sell," said the Chief, "but we can make it hard for him to carry on his business." Fortunately for Feltman and others the rumors soon subsided and the food became popular again." [\[14\]](#)

The year 1893 was also an important date in hot dog history. In Chicago, sausages were served with bread to the many visitors of the Colombian Exposition.[\[15\]](#) These sausages were a tremendous success because they were easy to eat, convenient and inexpensive. Also, at the time of the Exposition, baseball had become a popular American sport, and sausages became the standard fare at baseball parks.[\[16\]](#) Chris Von de Ahe, owner of the St. Louis Browns major league baseball team, is responsible for the rise of this tradition.[\[17\]](#)

At this point, the idea of a sausage served with bread became an American phenomenon. There exist many colorful accounts regarding the popularity of the hot dog during the late 19th and early 20th Centuries. For example, H.L. Mencken, a newspaperman, book reviewer, political commentator and writer wrote:

"I devoured hot-dogs in Baltimore way back in 1886, and they were then very far from newfangled....The[y] contained precisely the same rubber, indigestible pseudo-sausages that millions of Americans now eat, and they leaked the same flabby, puerile mustard. Their single point of difference lay in the fact that their covers were honest German Wecke made of wheat-flour baked to crispiness, and not the soggy rolls prevailing today, of ground acorns, plaster-of-Paris, flecks of bath-sponge, and atmospheric air all compact."[\[18\]](#)

Also, there are stories from the turn of the century that sausage vendors would park themselves outside student dormitories in order to take advantage of the new culinary craze.[\[19\]](#)

Another version of how the hot dog and bun became one was during the St. Louis Louisiana Purchase Exposition in 1904.^[20] A Bavarian concessionaire, Anton Feuchtwanger, supposedly loaned white gloves to his patrons to hold his hot sausages.^[21] However, many of the patrons ate the sausages as they walked through the Exposition and never returned the gloves.^[22] Due to the rising costs of supplying these gloves, Feuchtwanger reportedly asked his brother-in-law, a baker, for help, who then improvised long soft rolls - thus inventing the hot dog bun.^[23]

Another story that attracts the attention of hot dog enthusiasts is the origin of the term "hot dog." Some say the word was coined in 1901 at the New York Polo Grounds.^[24] It was a cold April day and a vendor did not sell his ice cream and ice cold soda due to the weather.^[25] He sent his salesmen out to buy up all the sausages they could find, and an equal number of rolls.^[26] In less than an hour his vendors were selling hot dogs from portable hot water tanks and screaming "They're red hot! Get your Dachshund sausages while they're red hot!"^[27]

In the press box, sports cartoonist Tad Dorgan began to depict the scene.^[28] He quickly drew a cartoon of barking Dachshund sausages nestled warmly in rolls.^[29] Not sure how to spell the word "Dachshund", he simply wrote "hot dog!"^[30] The cartoon was a sensation and the term "hot dog" was born.^[31]

In a similar story, it is also said that on June 3, 1903, Adolf Gehring was selling food at a baseball game in St. Louis, Missouri.^[32] On this particular day, Gehring sold out all his food and drinks.^[33] He went to a baker to buy some bread, but they had nothing left but some long dinner rolls which he bought.^[34] He then went to a butcher shop and bought sausages.^[35] With a portable wood stove, he cooked the sausages and placed them in the rolls.^[36] He started walking through the crowd offering his "meat sandwiches".^[37] However, one man called out, "give me one of those damn hot dogs."^[38] The phrase caught on and everyone began to refer to the sausages as hot dogs.

At this time, the hot dog captured Americans across the country. In 1916, for example, hot dog enthusiasts began a Fourth of July tradition by beginning the Coney Island hot dog eating contest, and this tradition continues today.^[39] The President of the United States even succumbed to the hot dog craze. In 1939, Franklin D. Roosevelt, the thirty-second President of the United States, and his wife, Eleanor, wanting to introduce something American to the visiting King George VI of England and his queen, served the royal guests hot dogs at a picnic at their estate in Hyde Park, New York on June 11, 1939.^[40] The press mocked the President and First Lady and the picnic menu made the front page of the New York Times.^[41] In fact, Eleanor Roosevelt worried for weeks whether or not it was a good idea to serve hot dogs to such a distinguished guest. In her newspaper column called "My Day," dated May 25, 1939, she expressed her concern:

"Oh dear, oh dear, so many people are worried that the 'dignity of our country will be imperiled by inviting Royalty to a picnic, particularly a hot dog picnic! My mother-in-law has sent me a letter which begs that she control me in some way. In order to spare my feelings, she has written on the back a little message: "Only one of many such." She did not know, poor darling, that I have "many such" right here in Washington. Let me assure you, dear readers, that if it is hot there will be no hot dogs, and even if it is cool there will be plenty of other food, and the elder members of the family and the more important guests will be served with due formality."^[42]

However, Eleanor Roosevelt worried for little to no reason. Journalists at the event reported that the King was so pleased with the menu that he asked Mrs. Roosevelt for a second hot dog.^[43]

By the mid 20th Century, the hot dog became an institution not only in the United States, but throughout the world. Hot dogs began to show up on every menu and companies began to sell their hot dogs commercially in supermarkets and convenient stores. No matter where one travels, one can find a hot dog.

II. What is a Hot Dog?

Although the hot dog is traditionally known as a type of sausage, the hot dog is distinguishable from other sausages by its smaller size and the relative lack of spicing.[\[44\]](#) Hot dogs can vary in size, but on average, the hot dog is roughly six inches in length.[\[45\]](#) However, in many places throughout the world, one can also purchase a “foot long” hot dog.

One of the more controversial issues regarding the hot dog concerns the composition of a hot dog. Many enjoy the taste of hot dogs, but few actually know their contents. Simply, there is no fixed specification for hot dog meat, although beef and pork are the most popular. In fact, less expensive hot dogs may include chicken, due to the low cost and greater availability of mechanically separated chicken.[\[46\]](#)

However, manufacturers over the years have responded to public concerns regarding the contents of hot dogs by introducing new, healthy alternatives which are lower in sodium and fat content. The most common alternatives are hot dogs composed of turkey, chicken, or vegetarian ingredients.[\[47\]](#)

Once the manufacturer selects the type of meat, the meat is cut or ground into small pieces and placed in a mixer.[\[48\]](#) Then, high speed, stainless steel choppers blend the meat, spices, and other ingredients into an emulsion or batter.[\[49\]](#) The mixture is then pumped into an automatic stuffing machine, where it flows into casings.[\[50\]](#) The most popular brands of hot dogs use cellulose casings, which are later removed.[\[51\]](#) Some hot dogs use natural casings, which remain on the hot dog.[\[52\]](#) These hot dogs are considered more traditional and are frequently made by smaller manufacturers and tend to cost a little more.[\[53\]](#)

Once the casings are filled, they are linked into long strands of hot dogs and transported to a smokehouse where the hot dogs are then fully cooked under controlled temperature and humidity.[\[54\]](#) After passing through the smoke and cook cycle, the hot dogs are rinsed in cool water.[\[55\]](#) If the hot dogs were made with cellulose casings, they are sent to an automatic peeler, where the cellulose skin is stripped away.[\[56\]](#)

The individual links are then sealed in plastic films to protect the freshness and flavor of the hot dog.[\[57\]](#) Each package of hot dogs contains an ingredient statement, which lists everything that goes into the product. The entire process, from the selection of meat to the packaging is carefully regulated and inspected by USDA and FDA.

III. Preparation of the Hot Dog

For the most part, hot dog consumers can prepare their hot dogs in any shape or fashion. Hot dogs may be [grilled](#) , [steamed](#) , [boiled](#) , pan fried, deep fried, broiled, microwaved, or eaten cold (the sausages themselves are cooked before packaging).[\[58\]](#) Other preparations include adaptations of the hot dog bun. For example, a hot dog on a stick, fried in [corn](#) batter, is commonly called a [corn dog](#) .[\[59\]](#) Corn dogs are popular in the [U.S.](#) , especially at fairs and picnics. Another favorite is a hot dog

which is split down the center, stuffed with [cheese](#) , wrapped in [bacon](#) and deep-fried. This creation is known as a franchisee.[\[60\]](#)

The variations never end. A hot dog served with the addition of cheese is known as a "cheese hotdog" or simply a "cheese dog".[\[61\]](#) And yet another adaptation is the chili dog. As the name indicates, a chili dog is a traditional hot dog served with the addition of chili. Chili dogs and cheese dogs are popular foods at [carnivals](#) and [amusement parks](#) .

IV. Condiments

Although the use of condiments on a hot dog is closely associated with the preparation of the hot dog, condiments deserve separate recognition because hot dogs are eaten with a wide variety of condiments and each combination merits its own unique name. In fact, hot dog enthusiasts enjoy to mix and match different condiments in order to find that perfect combination.

The most traditional condiment is mustard. A close second is ketchup. Traditionalists believe that a properly made hot dog will not include ketchup, and in some instances, mustard is the only acceptable condiment. They think the flavor of ketchup overpowers and destroys the taste of the hot dog instead of complementing it.[\[62\]](#) However, many disregard the tradition, and use the condiment freely.

The same is true for many other complements. The following are non-exhaustive, but the most common condiments used on hot dogs other than mustard and [ketchup](#) are [chili](#) , cheese, [sauerkraut](#) , [coleslaw](#) , [pickle relish](#) and chopped [onion](#) . Other ingredients may include [mayonnaise](#) , chopped [lettuce](#) , [tomato](#) , [pickle](#) spear, celery salt and [chile pepper](#) . Simply, if it is in the refrigerator, pantry, or spice cabinet, there is a good chance it will complement a hot dog quite well.

V. World-wide Variations

As one can guess, with so many condiments that complement a hot dog, there are endless combinations and varieties. Different areas of the world have local variations on the type of meat used, condiments and means of preparation. Some of the more famous and interesting local flavors are as follows:

A. The Chicago Style Hot Dog

The Chicago style hot dog, one may argue, is the most popular or well-known hot dog in the world. A [Chicago style](#) hot dog is a steamed, but never boiled, all-beef hot dog topped with chopped [onions](#) , diced/wedged [tomatoes](#) , a [dill pickle](#) spear and/or pickle [relish](#) , pickled hot [peppers](#) ("sport peppers" -- these are optional), [mustard](#) , and [celery salt](#) and served on a steamed [poppy](#) seed bun.[\[63\]](#) The toppings are just as important as the order they are applied, and the proper order is: 1) yellow mustard, 2) bright green relish, 3) fresh chopped onions, 4) two tomato wedges, 5) a pickle spear or slice, 6) two sport peppers and 7) a dash of celery salt.[\[64\]](#) Hot dogs are prepared this way in order to assure the consumer a taste of each topping in every bite.

In addition, one may notice that the Chicago style hot hog is prepared without ketchup. Traditionally, Chicago hot dogs are never prepared with ketchup. As mentioned *supra*, true hot dog fans condemn the use of ketchup and this is nowhere more apparent than in Chicago.

Furthermore, Chicago hot dogs are colloquially known as a "dog dragged through a garden" because of the unique feature of the condiments.^[65] Additionally, the variety and amount of vegetables on the Chicago hot dog create a distinct feature known as the "snap".^[66] When one eats a Chicago style hot dog, the combined textures of the steamed hot dog with the natural intestine lining, pickle spear, and peppers create a sudden but appealing snap as the eater bites through the different items.

B. New York Street Dogs

Although Chicago and its hot dogs may receive the most recognition world-wide, New Yorkers are quick to remind hot dog enthusiasts that New York is the birthplace of the hot dog in the United States. As mentioned, *supra*, Charles Feltman opened the first Coney Island hot dog stand and from that point, the hot dog became a fixture along the streets of New York. In fact, New York's hot dog is more famous for where it is sold rather than how it is traditionally prepared. In New York, hot dogs can be found along city streets, sold from push carts by street vendors.^[67] Unlike the Chicago style hot dog, the New York street vendor variety is more simplistic. The usual condiments are mustard and sauerkraut, with optional chopped raw onions, onion sauce, or pickle relish.^[68] New York street cart vendors generally store their unsold dogs in warm-water baths, giving rise to the infamous name, the "dirty water dog."^[69]

One of the more famous hot dog vendors in New York is Nathan's. Following the success of Charles Feltman on Coney Island, Nathan Handwerker, opened his own group of stands in the Coney Island neighborhood.^[70] Until this day, every Independence Day, [Nathan's Hot Dog Eating Contest](#) is held at the original location to determine who can consume the most hot dogs (and buns) in a twelve-minute time period.^[71] In 2005, Takeru Kobayashi of Japan successfully defended his title at Nathan's Famous in Coney Island by consuming 49 Nathan's Famous hot dogs and buns in 12 minutes.^[72] In fact, Kobayashi holds the world record for most hot dogs consumed in 12 minutes. In 2004, Kobayashi ate 53.5 hot dogs in the contest.^[73]

Furthermore, New York is also famous for the "kosher" hot dog. In New York City, Hebrew National and Best's are popular brands of hot dogs.^[74] A kosher hot dog is one made in accordance with Jewish dietary laws, which include a ban on pork.^[75] Kosher hot dogs are preferred by some consumers for their distinctive taste, texture and spicing. These premium brands are typically all-beef.

In addition, there are also famous local variations of the hot dog throughout the state of New York. "Red Hots" and "White Hots" are the two most popular local variations.^[76] While red hots are "normal" hot dogs in the traditional sense, white hots are plumper. These unique dogs were first made in Rochester, New York.^[77] The white hot dogs are sometimes known as coneys.^[78]

C. Michigan Chili Dogs

Although relatively unheard of, the state of Michigan is the home of several unique variations of the hot dog. Jackson, Michigan, for example, is known for its famous Coney Island style hot dog. A Jackson, Michigan Coney Island hot dog typically contains "everything", or meat sauce, mustard and chopped onions.^[79] Unlike neighboring Detroit Coney Island hot dogs, Jackson's sauce more closely resembles crumbled ground beef than the more traditional chili con carne, runny sauces of Detroit.^[80]

Specifically, in the metropolitan Detroit area, the Coney Island “chili dog” is very specific as to the ingredients: a hot dog made from pork with casing, all-meat, beanless chili, diced yellow onion and yellow mustard.[\[81\]](#)

D. Virginia and West Virginia

In Central Virginia, most places serve grilled or lightly deep-fried hot dogs.[\[82\]](#) Locals prefer a foot long hot dog rather than the traditional six inch frank.[\[83\]](#) “All the way” or “everything” can vary, but the main condiments are yellow mustard, chili and onions.[\[84\]](#) The chili is a thin sauce.[\[85\]](#) A unique addition is that some restaurants will offer cole slaw as the fourth condiment.[\[86\]](#) Although sweet relish is usually available, as is ketchup, these are not automatically added nor generally requested in Central Virginia.[\[87\]](#)

In West Virginia, hot dogs are usually served with a beanless chili con carne sauce and sweet cole slaw or with some combination of the chili sauce, mustard, chopped onions and/or ketchup.[\[88\]](#) Most restaurants in West Virginia will allow customers to add as many toppings as possible without additional charge.[\[89\]](#) One unique feature of West Virginia hot dogs is the West Virginia “chili dog.” Unlike other “chili dogs”, West Virginians will serve a chili dog without the hot dog, but just the chili.[\[90\]](#) Hot dogs are so popular in the state of West Virginia that hot dogs are an obligatory item on the menu of locally owned restaurants in Charleston, the state’s capitol.[\[91\]](#)

In fact, one West Virginian city in particular has developed its own original recipe. Hot dogs in Huntington, West Virginia are usually served by default with a special chili sauce unlike other chili recipes throughout the United States, ranging from a pinto bean-based paste to a thick pile of well-seasoned ground beef that is popular among local residents.[\[92\]](#) This chili creation is often ordered with cole slaw, mustard, onions, cheese sauce and/or ketchup.

E. Los Angeles

Perhaps the most famous hot dog in the Los Angeles area is the chili dog. Popular restaurants, such as Pink's, serve many variations of the chili dog.[\[93\]](#) Chili used in Los Angeles is very pasty and contains a great deal of flour, leading to its nickname California mud.[\[94\]](#) Street vendors in Los Angeles also serve a popular bacon-wrapped hot dog with mayonnaise and pineapple salsa as condiments.[\[95\]](#)

Despite the popularity of the chili dog in the Los Angeles area, many contend that the most famous hot dog in Los Angeles may not be sold by a local chain or restaurant, but rather at the baseball park. The world-famous Farmer John Dodger Dog sold at Dodger Stadium, named after the Major League Baseball franchise that sells them, the Los Angeles Dodgers, is made of 100 percent pork.[\[96\]](#) This foot long ballpark sensation is wrapped in a steamed bun and is consumed in the millions over the course of the baseball season.[\[97\]](#) Legend also says that the foot long hot dog is secretly grilled in beer.[\[98\]](#)

F. Unusual Variations Throughout the United States and the World

One of the more interesting preparations in the United States originates in New Jersey. There, many restaurants serve what is called a potato dog.[\[99\]](#) As the name suggests, this hot dog is served with diced and stewed potatoes on spicy bread.[\[100\]](#) New Jersey is also the home for the “ripper” where

the hot dog is deep fried in oil until the skin bursts open.[\[101\]](#)

Outside the United States, hot dogs have established completely separate identities. In the hot dog's birthplace, Germany, hot dogs are typically consumed like sausages. Although Germans will serve the hot dog with buns, traditionally the hot dog is served with the bread on the side.[\[102\]](#) The bread is not eaten with the sausage, but rather in between bites in order to cleanse the palate for the next bite of spicy sausage.[\[103\]](#)

Furthermore, in Tijuana, the "Tijuana bacon dog" or "danger dog" is a slang phrase for a hot dog cooked with bacon wrapped around it.[\[104\]](#) Traditional condiments are available, such as mustard, ketchup, pickles and onions, but residents add local flavor by adding guacamole, beans and salsa.[\[105\]](#) Brazil also adds local culture to the hot dog, by including condiments, such as marinara sauce, cheese, corn niblets, canned peas, mashed potatoes, shoestring potatoes, among others.[\[106\]](#) Also, in Montreal, Quebec, Canada, residents have developed their own version of the chili dog. Rather than served with chili, this hot dog is smothered in spaghetti sauce.[\[107\]](#)

In the end, it is clear that hot dogs are enjoyed throughout the world, and no matter where someone resides or visits, a hot dog will be available either from a street vendor, at the local deli, or on a restaurant menu. The only question will be which one to choose and to understand how locals prefer their hot dogs.

VI. Quantitative Assessment Regarding the Popularity of the Hot Dog

Hot dogs are sold in large volumes at both retail stores and at food service outlets and restaurants. Although it is difficult to assess the actual sale of hot dogs throughout the year, data can be compiled by data tracking companies which analyze information received from retail scanners when customers check out at local stores.[\[108\]](#) Food service sales are also tracked to the extent possible, but because hot dogs are sold in so many venues – like corner stands, sporting events, carnivals and other places where data is not tracked, it is difficult to offer a single precise estimate of the number of hot dogs sold each year.[\[109\]](#) Despite the inability to track total hot dog sales, it is clear from the data that hot dogs are purchased in great quantities.

A. Retail Sales

Retail sales in major markets are collected when products are scanned at the checkout counter.[\[110\]](#) Scanners read bar codes on uniform-weight products and this information is translated into hard data. Companies like Information Resources Inc. in Chicago, Illinois or NPD in Port Washington, New York, track these numbers.[\[111\]](#) Although the statistical data provides information regarding the major markets, it is impossible for the data to represent every market. For example, some stores do not have scanners which are the source of the data. As a result, the statistical information is not perfect, but do enlighten those interested regarding the popularity of the hot dog. According to Information Resources, Inc., 837 million packages of hot dogs were sold at retail stores in 2004.[\[112\]](#)

B. Trends

Although people from all walks of life enjoy indulging in a hot dog, hot dogs are admittedly

unhealthy. In the mid-1990s, low-fat and fat-free foodstuffs hit the market and sales in retail stores were strong. As a result, the hot dog industry responded to this new dietary trend and these companies began to introduce new "better for you" alternatives to the traditional hot dog. These options include turkey, chicken or vegetarian hot dogs. According to Information Resources, Inc., these new healthy alternatives accounted for approximately 12.4 percent of the total market for hot dogs.^[113] Dollar sales for the category were substantial as well, with the top ten markets selling a total of \$37,332,066 in 2004.^[114]

C. Regional Data

While a popular choice across the country, hot dog consumption does vary by region. Residents of the Southeast, for example, eat more processed meats in general. Residents of New York spent the most money on hot dogs in retail stores in 2004.^[115] Los Angeles residents, however, purchased the most pounds of hot dogs.^[116] For the second year in a row in 2004, the Baltimore/Washington area came in third for dollar sales, ahead of Chicago.^[117] The top ten hot dog eating cities in America in 2004 were as follows:

	Dollar Sales	Unit Sales		
New York	\$ 105,122,000	34,353,320		
Los Angeles, CA	\$ 81,920,320	41,643,520		
Baltimore/Washington	\$ 46,486,100	19,224,000		
Chicago, IL	\$ 46,433,390	20,552,200		
San Ant/Corpus Christie	\$ 29,190,030	28,638,360		
South Carolina*	\$ 29,307,460	15,367,990		
Dallas/Ft Worth	\$ 27,156,490	20,067,760		
San Fran/Oakland	\$ 24,513,640	8,800,280		
Houston, TX	\$ 20,267,400	16,000,460		
New Orleans/Mobile	\$ 16,885,750	10,536,820		
* This market includes all cities in SC.				
Ranking is based on dollar sales for the latest 52 weeks ending Oct. 3, 2004.				

^[118]

Furthermore, hot dog producers look forward to warm weather holidays in order to spike hot dog sales. Producers believe that an average of 38 percent of hot dogs are sold annually at retail between Memorial Day and Labor Day.^[119] For example, in 2004, there were approximately \$614 million in retail sales from June through August.^[120] Specifically, ten percent of annual retail hot dog sales

occur during July, which is designated as National Hot Dog Month.[\[121\]](#) On Fourth of July weekend alone, Americans will consume approximately 150 million hot dogs.[\[122\]](#)

D. Hot Dogs and Sports

Although the all-famous “Seventh Inning Stretch” at America’s baseball stadiums ask fans to go out to the ball game...for some peanuts and crackerjack, many fans would exit the turnstiles of stadiums disappointed if they did not enjoy one of baseball’s greatest ballpark traditions, the hot dog. As mentioned *supra*, one of the more famous hot dogs is the Dodger Dog, sold at every home game of the Los Angeles Dodgers. Other baseball parks may not receive as much recognition for their version of this American treat, but baseball fans around the country, nonetheless, consume hot dogs at an amazing rate each baseball season. In 2005, for example, the top ten hot dog eating stadiums were as follows:

1.	Dodger Stadium – 1,674,400
2.	Coors Field – 1,545,000
3.	Wrigley Field – 1,543,500
4.	Yankee Stadium – 1,365,000
5.	Minute Maid Park – 1,248,000
6.	Edison Field – 1,133,000
7.	HHH Metrodome – 850,000
8.	Citizens Bank Park – 800,000
9.	Shea Stadium – 745,000
10.	U.S. Cellular Field – 495,000

[\[123\]](#)

These are remarkable numbers when one considers the attendance totals of some of these stadiums for the same year. For example, the Los Angeles Dodgers had a regular season attendance of approximately 3.6 million people in 2005.[\[124\]](#) This would suggest that on average one out of every two baseball fans purchased a hot dog among all the different choices available at the baseball stadium. Also, at Coors Field, the home of the Colorado Rockies, and the number two hot dog selling stadium in 2005, the total attendance was 1.9 million people, which suggests that the ratio is closer to one hot dog for every baseball fan.[\[125\]](#) In fact, the data is somewhat distorted because total attendance figures are calculated by total tickets sold rather than by the number of people who enter the stadium each game. No matter the calculation, however, there is no doubt that the hot dog is a hot commodity at baseball stadiums.

VII. Regulation of Hot Dogs

Hot dogs are principally regulated by the United States Department of Agriculture under the Federal Meat Inspection Act.[\[126\]](#) However, the Food and Drug Administration also closely regulates hot dogs and the agency exchanges information with USDA in order to ensure that hot dogs meet federal standards of health and nutrition. USDA, for instance, has ceded to FDA jurisdiction over any food

containing less than two percent meat or poultry.[\[127\]](#) Also, FDA has exclusive regulatory jurisdiction over live animals intended to be used for food.[\[128\]](#) USDA has exclusive jurisdiction over the slaughter of food animals and over the subsequent processing of meat and poultry, except that USDA and FDA have joint jurisdiction over the use of food additives in meat and poultry.[\[129\]](#) After processing, USDA and FDA have joint jurisdiction over the distribution of meat and poultry up to the retail establishment where it is sold.[\[130\]](#) FDA has exclusive jurisdiction over retail food establishments.[\[131\]](#)

Surprisingly, hot dogs and other meat products are in some respect responsible for the passage of the first food and drug laws in the United States. For example, some credit Upton Sinclair and his novel *The Jungle* for publicizing the outrageous conditions of the nation's food producing facilities. Published in 1906, readers were outraged at the filth in food and as a result, this public outcry led President Theodore Roosevelt to conduct a federal investigation. The result: the passage of the 1906 Pure Food and Drug laws, the predecessor to the Federal Food, Drug, and Cosmetic Act of 1938. Hence, although USDA has primary jurisdiction over the meat industry, FDA jointly influences and administers federal standards for meat products such as hot dogs.

A. Federal Definition

According to federal standards of identity, hot dogs are cooked and/or smoked sausages prepared from one or more kinds of raw skeletal muscle meat or raw skeletal muscle meat and raw or cooked poultry meat.[\[132\]](#) Federal standards of identity describe the requirements for processors to follow in formulating and marketing meat, poultry, and egg products produced in the United States for sale in this country and in foreign commerce. The standard also requires that they be comminuted (reduced to minute particles), semisolid products made from one or more kinds of raw skeletal muscle from livestock (like beef or pork) and may contain poultry meat.[\[133\]](#) Smoking and curing ingredients are allowed in order to contribute to flavor, color and preservation of the product, but these too are regulated according to federal standards.[\[134\]](#)

Water or ice, or both, may be used to facilitate chopping or mixing or to dissolve curing ingredients.[\[135\]](#) The finished products may not contain more than 30% fat or no more than 10% water, or a combination of 40% fat and added water.[\[136\]](#) Up to 3.5% non-meat binders and extenders (such as non-fat dry milk, cereal or dried whole milk) or 2% isolated soy protein may be used, but must be shown in the ingredients statement on the product's label by its common name.[\[137\]](#)

B. Byproducts, Variety Meats

Hot dogs "with byproducts" or "with variety meats" are made according to the specifications for cooked and/or smoked sausages *supra*, except they consist of not less than 15% of one or more kinds of raw skeletal muscle meat with raw meat byproducts.[\[138\]](#) The byproducts (heart, kidney, or liver, for example) must be named with the derived species and be individually named in the ingredients statement.[\[139\]](#)

C. Species

Beef hot dogs or pork hot dogs are cooked and/or smoked sausage products made according to the specifications *supra*, but with meat from a single species and do not include byproducts.[\[140\]](#) In addition, turkey hot dogs or chicken hot dogs can contain turkey or chicken and turkey or chicken

skin, but the fat content must be in proportion to what is contained in a whole turkey or chicken carcass.[\[141\]](#)

D. Labeling and Ingredients Statement

All ingredients in the product must be listed in the ingredients statement in order of predominance, from highest to lowest amounts.[\[142\]](#) A cooked sausage should be labeled by its generic name. The terms hot dog, frankfurter, frank, and wiener are examples of generic names.[\[143\]](#) When such sausage products are prepared with meat from a single species of cattle, sheep, swine, or goats they should be labeled with the term designating the particular species in conjunction with the generic name, e.g., "beef hot dog," and when such sausage products are prepared in part with Mechanically Separated (Species), they should be labeled accordingly as well.

E. "Meat" Derived By Advanced Meat Bone Separation & Meat Recovery Systems

The definition of "meat" was amended in December 1994 to include any "meat" product that is produced by advanced meat/bone separation machinery.[\[144\]](#) This meat is comparable in appearance, texture and composition to meat trimmings and similar meat products derived by hand.[\[145\]](#) This new machinery separates meat from bone by scraping, shaving, or pressing the meat from the bone without breaking or grinding the bone.[\[146\]](#)

The AMR machinery cannot grind, crush, or pulverize bones to remove edible meat tissue, and bones must remain intact.[\[147\]](#) The meat produced in this manner can contain no more than 150 milligrams (mg) of calcium per 100 grams product (within a tolerance of 30 mg. of calcium).[\[148\]](#) Products that exceed the calcium content limit must be labeled "mechanically separated beef or pork" in the ingredients statement.[\[149\]](#)

F. Mechanically Separated Meat (MSM)

Mechanically Separated Meat or MSM is a paste-like and batter-like meat product produced by forcing beef or pork bones, with attached edible meat, under high pressure through a sieve or similar device to separate the bone from the edible meat tissue.[\[150\]](#) MSM has been used in certain meat and meat products since the late 1970's.[\[151\]](#)

In 1982, a final rule published by the Food, Safety and Inspection Service declared MSM safe, and the FSIS established a standard of identity for the food product.[\[152\]](#) Some restrictions were made on how much can be used and the type of products in which it can be used. These restrictions were based on concerns for limited intake of certain components in MSM like calcium.[\[153\]](#) Mechanically separated meat must be labeled as "mechanically separated beef or pork" in the ingredients statement.[\[154\]](#) Hot dogs can contain no more than 20% mechanically separated beef or pork.[\[155\]](#)

G. Mechanically Separated Poultry (MSP)

Like Mechanically Separated Meat, Mechanically Separated Poultry (MSP) is a paste-like and batter-like poultry product produced by forcing bones, with attached edible tissue, through a sieve or similar device under high pressure to separate bone from the edible tissue.[\[156\]](#) MSP has been used in poultry products since the late 1960's.[\[157\]](#) In 1995, a final rule on MSP declared it safe and could

be used without restrictions.[\[158\]](#) However, it must be labeled as "mechanically separated chicken or turkey" in the product's ingredients statement.[\[159\]](#) Hot dogs can contain any amount of mechanically separated chicken or turkey.[\[160\]](#)

H. Food Product Dating Terms

The labeling on a package of hot dogs may contain one of several different types of dates. If a date is used, it must also state what the date means.[\[161\]](#) A "sell by" date informs the store how long to display the product for sale.[\[162\]](#) As one can guess, the product should be bought before the date expires. A "use by" date, on the other hand, is the last date recommended for use of the product while at peak quality.[\[163\]](#) This date is determined by the manufacturer of the product.[\[164\]](#)

Other dates include the "best if used by (or before)" and the "expiration" date.[\[165\]](#) The former date helps consumers by stating a precise date for best flavor or quality. The latter helps stores and consumers by stating the shelf-life or the last day the product is adequate for consumption.

I. Food Safety Guidelines

According to USDA and FDA, there is a simple phrase which will help maintain the safety of food - "keep them hot, keep them cold, keep them clean."[\[166\]](#) According to USDA, even though hot dogs are pre-cooked before packaging, consumers should re-heat hot dogs before consumption. In addition, once hot dogs are purchased, consumers should refrigerate or freeze hot dogs immediately. Specifically, FSIS advises consumers to store unopened packages of hot dogs for no more than two weeks in the refrigerator, and once opened, only one week.[\[167\]](#) A failure to observe these food safety guidelines can lead to food-borne illness and other health concerns.

VIII. Consumer Health Concerns and Governmental Response

Although hot dogs are beloved by many, there are health advocates who claim that hot dogs pose certain health risks and lack nutritional value. Of primary concern is that hot dogs host a harmful bacterium called *Listeria monocytogenes*, which can cause food-borne illness. Ironically, food additives and preservatives, such as sodium nitrite, are also of much concern because some believe such additives can cause cancer. Despite the reality of these health concerns, government agencies, such as FDA and USDA, strictly regulate hot dogs and have established programs in order to respond to these issues.

A. *Listeria monocytogenes*

Listeria monocytogenes is a harmful bacterium that can be found in a variety of foods, including hot dogs. *Listeria monocytogenes* is spread very easily by direct food contact with a contaminated surface, and it can survive and grow in a refrigerated, ready to eat ("RTE") product.[\[168\]](#) For several decades, FDA, the Department of Health and Human Services (HHS) and the Center for Disease Control (CDC), along with other federal, state and local agencies, have been working toward preventing *Listeria monocytogenes* caused illness.[\[169\]](#) In pregnant women, for example, *Listeria monocytogenes* can result in miscarriage, fetal death, or severe illness in a newborn infant.[\[170\]](#) In addition, the elderly and those with weakened immune systems are also at risk for severe illness or death from food contaminated with *Listeria monocytogenes* .[\[171\]](#)

A number of factors can cause or contribute to *Listeria monocytogenes* contamination of RTE meat and poultry products.[\[172\]](#) First, if the pathogen is already present in product ingredients, a processing error, such as incorrect formulation or inadequate processing time or temperature, can result in the production of products containing live organisms.[\[173\]](#) Second, a product that has undergone successful treatment can be contaminated by pathogens on food-contact surfaces of equipment used for processing, handling, or packaging of the product.[\[174\]](#) Serious outbreaks of listeriosis have occurred because of the failure to take such precautions during facilities construction or remodeling. For example, during the 1980's, *Listeria monocytogenes* began to emerge as a problem in processed meat, such as hot dogs.[\[175\]](#) FSIS and FDA worked with processing plants to improve their procedures and emphasized a "zero tolerance"--no detectable levels of viable pathogens--for the organism in RTE products.[\[176\]](#) Between 1989 and 1993, the rate of illness from the bacterium declined 44 percent.[\[177\]](#)

In the fall of 1998, State health departments and the CDC investigated an outbreak of food-borne illness in which hot dogs were again implicated.[\[178\]](#) CDC and FSIS investigators isolated the outbreak strain, a strain of *Listeria monocytogenes*, from an opened and previously unopened package of hot dogs manufactured by a single plant.[\[179\]](#) CDC eventually reported 101 illnesses, 15 adult deaths, and six stillbirths or miscarriages associated with the outbreak.[\[180\]](#) This led to a national outcry and in May 2000, President Clinton issued a radio message to assure the public of the seriousness of the issue.[\[181\]](#) As a result, FDA, USDA, and CDC established a set of programs and regulations to respond to the crisis.

For example, The Healthy People 2010 initiative has combined the resources of federal food safety agencies to promote national health and disease prevention in order to reduce pathogens such as *Listeria monocytogenes*.[\[182\]](#) Specifically, the program sought to reduce food-borne listeriosis by 50% by the end of the year 2005.[\[183\]](#)

The purpose of the assessment was to systematically examine available scientific data and information to estimate the relative risks of serious illness and death associated with consumption of different types of ready-to-eat (RTE) foods that may be contaminated with *Listeria monocytogenes*.[\[184\]](#) The risk assessment, which was published in draft form in 2001 and published in final form in 2003, provides analyses and models that (1) estimate the potential level of exposure of three age-based population groups and the total United States population to *Listeria monocytogenes* contaminated foods for 23 food categories and (2) relate this exposure to public health consequences.[\[185\]](#) In particular, the food categories consist of foods with a documented history of *Listeria monocytogenes* contamination. This examination of the current science and the models developed from it are among the tools that food safety regulatory agencies may use to evaluate the effectiveness of current and future policies, programs and regulatory practices to minimize the public health impact of this pathogen.

In addition, FDA and the Centers for Disease Control and Prevention (CDC) have reviewed ongoing *Listeria monocytogenes* prevention and control activities and have developed an Action Plan, in order to complement the Risk Assessment.[\[186\]](#)

According to the Action Plan, the FDA and the CDC have established six objectives in order to achieve the goals of the Healthy People 2010 initiative. These objectives are as follows:

1. Develop and Revise Guidance for Processors that Manufacture or Prepare Ready-To-Eat

Foods and Develop or Revise Guidance for Retail and Food Service and Institutional Establishments

In short, FDA will develop and issue guidance on enhancing the safety of the production of fresh-cut produce. Specifically, FDA believes that there is a greater need to involve the retail segment of the food industry in training in order to ensure the safety of produce.[\[187\]](#) Although this objective does not focus on hot dogs per se, it is evidence of FDA concern regarding the transfer of *Listeria monocytogenes* between foods contaminated with the pathogen and food contact surfaces, such as slicing machines, knives, and spoons.[\[188\]](#)

In addition, the Action Plan proposes that FDA will review the Model Food Code to determine if provisions that address preventive controls, such as approved source, date marking and cold-holding times and temperatures, warrant revision.[\[189\]](#)

Other measures by which FDA aims to accomplish this first objective is by requesting data and information from the retail and food service industry regarding *Listeria monocytogenes*. Some examples of these requests include 1) *Listeria monocytogenes* levels in products stored in retail and food service facilities; 2) levels of environmental harborage of *Listeria monocytogenes* on food and non-food contact surfaces; 3) effects of short and long-term refrigerated storage on levels of *Listeria monocytogenes*; 4) impact of time and temperature on levels of *Listeria monocytogenes* in products; 5) efficacy of cleaning procedures and sanitizing agents on environmental surfaces and utensils; 6) frequency of use and efficacy of adding inhibitors to food products in retail and food service establishments to reduce or prevent *Listeria monocytogenes* growth; and 7) effect of training regarding hygienic practices and sanitation on levels of *Listeria monocytogenes* in products in retail and food service establishments.[\[190\]](#)

2. Develop and Deliver Training and Technical Assistance for Industry and Food Safety Regulatory Employees

Another objective of the FDA Action Plan is to provide adequate training and technical assistance for industry and food safety regulatory employees. It is the FDA's primary goal to train FDA and state/local regulators of retail food, milk and manufactured food operations.[\[191\]](#)

3. Enhance Consumer and Health Care Provider Information and Education efforts

The FDA also believes it is necessary to support educational programs which provide information regarding the risks of listeriosis. The agency believes there are special at-risk groups, including minorities, pregnant women and seniors who are unaware of the risks associated with *Listeria monocytogenes* caused illness.[\[192\]](#) As a result, over the last several years, FDA has participated in a variety of programs to educate these special at risk groups. Some of these programs include the provision of health messages on the risk of listeriosis delivered over the Spanish language radio and television programs and the distribution of information at health fairs at Wal-Mart locations in Hispanic areas.[\[193\]](#) Also, a public health educational campaign by the public-private Partnership for Food Safety Education is underway to advise consumers to keep their refrigerators at 40 degrees Fahrenheit to prevent food-borne illness, including listeriosis.[\[194\]](#)

4. Review, Redirect and Revise Enforcement and Regulatory Strategies Including Microbial Product Sampling and Analytical Methods

The National Advisory Committee on Microbiological Criteria for Foods (NACMCF) adopted two documents in 2004 in order to update regulatory strategies and procedures. In particular, these documents were in response to a December 2004 Citizens' Petition on behalf of a coalition of fifteen leading trade associations pursuant to sections 402(a)(1) and 701(a) of the Federal Food, Drug, and Cosmetic Act and also 21 C.F.R. § 109.4.[\[195\]](#) The Petition requested that FDA amend 21 C.F.R. § 109 to establish a regulatory limit for *Listeria monocytogenes* of 100 colony forming units per gram (CFU/g) in foods that do not support growth of the microorganism.[\[196\]](#)

5. Enhance Disease Surveillance and Outbreak Response

The Food and Drug Administration participates in PulseNet, a national molecular sub-typing network for food borne disease surveillance, which was established by the Centers for Disease Control and Prevention (CDC) in 1996.[\[197\]](#) Food and environmental bacterial pathogens, including *Listeria monocytogenes*, are sub-typed and characterized using pulsed-field gel electrophoresis (PFGE) by FDA Office of Regulatory Affairs (ORA) laboratories and the molecular patterns are submitted by FDA/CFSAN to PulseNet.[\[198\]](#) These patterns are routinely compared to the PulseNet database that primarily consists of patterns from clinical isolates.[\[199\]](#) Patterns from the food and clinical isolates that "match" suggest a potential link and are further investigated to determine if there is an epidemiological association in a food-borne outbreak.[\[200\]](#) FDA/CFSAN routinely monitors PulseNet as a possible early alert to a food-borne outbreak.[\[201\]](#)

6. Coordinate Research Activities to Refine the Risk Assessment, Enhance Preventative Controls, and Support Regulatory, Enforcement and Educational Activities

The last objective aims to bring the above objectives together by facilitating the communication between government agencies in order to maximize agency resources. In order to combat food borne illness such as listeriosis, it is essential to continuously communicate and update procedures and guidelines.

B. Nutrition, Sodium Nitrite and Food Additive Regulation

The nutritional and ingredient content of hot dogs varies depending on the variety one buys. Besides the "meat" that goes into the traditional hot dog, there is a long list of other ingredients that make hot dogs what they are today. Along with spices and flavorings, water and salt, there are some not-so-familiar ingredients which enhance color and texture and help to preserve "freshness." These include binders, phosphates, erythorbate, citric acid and dextrose.[\[202\]](#)

One of the more controversial ingredients found in hot dogs is monosodium glutamate (MSG), which is a flavor enhancer for a variety of foods prepared by food processors.[\[203\]](#) Its use has become controversial in the past 30 years because of reports of adverse health reactions. Research on the role of glutamate (a group of chemicals that includes MSG) in the nervous system has raised questions about the chemical's safety, and it has also been studied in relation to migraine headaches, diabetes, asthma, atrial fibrillation and depression.[\[204\]](#) Many scientists believe that MSG stimulates the tongue to enhance meat-like flavors.[\[205\]](#) Under current FDA regulations, when MSG is added to a food, it must be identified as "monosodium glutamate" in the label's ingredient list.[\[206\]](#)

However, the most controversial ingredients in hot dogs are nitrites and nitrates. Almost all varieties of hot dogs contain sodium nitrite, which is a chemical salt used as a preservative and taste enhancer.

[207] Since the late 19th Century, sodium nitrite and other nitrates have been used to preserve meats. [208] As transportation expanded from coast to coast, preservatives such as nitrites were used more frequently. Today, additives are used in hot dogs not only to preserve the meat for longer periods of time, but also to create a more appealing product for the consumer. [209] They are what make hot dogs red and help them maintain a plump consistency where there might otherwise be unattractive shrinking and wrinkling. [210]

However, despite the advantages introduced through the use of nitrites, certain health concerns are also prevalent. As a result, government regulations regarding such preservatives and additives were established in 1926 to ensure the safety of food. [211] This is because nitrites and nitrates are considered poisonous to humans. In the 1960's, for example, it was discovered that nitrites can combine with amines, substances naturally found in many food products, to produce nitrosamines, some which cause cancer in laboratory animals. [212] Indeed, the nitrates that occur naturally throughout the human food supply are converted to nitrites and combine with naturally occurring amines to produce nitrosamines in the human gut. [213]

Following this discovery, several congressional hearings were held to determine the health ramifications associated with the use of nitrites and nitrates in food. [214] After these hearings, FDA proposed to prohibit non-essential uses of nitrite. [215] However, the FDA Commissioner acknowledged that nitrites had not been banned because of their usefulness in preventing botulism and because of their importance in maintaining the characteristics of cured meat that are expected and demanded by consumers. [216] USDA also denied petitions to ban or restrict nitrites in meat on the ground that more information was needed. [217] Despite the decision to not ban or restrict the use of nitrites, USDA established an Expert Panel on Nitrites and Nitrosamines and the panel recommended that modifications be made in the use of nitrites in meat and poultry products. [218] Following this finding, USDA updated the status of nitrite and subsequently advised FDA that there was no prior sanction for nitrite in poultry. [219] FDA followed with a statement that nitrite use in poultry products qualifies as a food additive and thus FDA could examine its use. [220] USDA then expanded its previous statement to include the use of nitrite in meat products. [221] This debate bounced back and forth for almost a decade. Technological advances allowed both USDA and FDA to study the effects of nitrite use in poultry and meat products, but FDA ultimately decided in 1980 that there was insufficient evidence to support a conclusion that nitrite induced cancer in rats. [222] However, the debate did not end there.

For example, in a 1981 National Academy of Sciences study on the toxic effects of sodium nitrate, a lethal dose was estimated to be one gram (less than ¼ of a teaspoon). [223] Although the amount of nitrates found in conventional hot dogs is well below anything that could be immediately toxic, there is mounting evidence that over time, even smaller levels of sodium nitrite can cause damage to human health if consumed in abundance. [224]

Coincidentally, according to a recent study performed by Dr. Ute Nothlings of the University of Hawaii (presented at the American Association for Cancer Research on April 20, 2005), consumption of foods such as bacon, sausage, hot dogs and other processed meats increased the risk of cancer. [225] In a seven-year study of a multi-ethnic range of 190,545 men and women, those who regularly consumed processed meats had a 67% higher risk of developing colon and pancreatic cancer. [226] Though the study did not explicitly point the finger at sodium nitrite as the culprit, cancer research from the Cancer Prevention Coalition does. [227] According to their research, during the cooking process, nitrites combine with amines to form carcinogenic compounds. [228]

In the end, some 20 years later, the debate still continues. Although USDA and FDA have authorized alternative procedures for controlling the levels of nitrites in meat products such as hot dogs, nitrite use is still a concern of health advocates around the world.

IX. Conclusion

Whether one calls them hot dogs, red hots, wieners, franks or frankfurters, the hot dog is clearly an American tradition, with a rich history that spans across the world. Although born in Germany as the sausage, once introduced to the United States by German Americans, the hot dog transformed into the cultural icon it is today. But like all foods, Americans and tourists alike enjoy hot dogs because government agencies such as FDA and USDA strictly regulate hot dogs and continuously monitor its safety for consumption. Due to these efforts, when one asks the question - “what is a hot dog?” – do not worry and enjoy!

[1] David Ray & Janet Riley, *Americans Will Eat 150 Million Hot Dogs on the Fourth of July*, available at <http://www.hot-dog.org/4thofJuly04.pdf> (last visited Mar. 15, 2006).

[2] Kraft Foods, *What is a Wienermobile?*, available at <http://www.kraftfoods.com/om/what.htm> (last visited Feb. 6, 2006).

[3] Linda Stradley, *History of Hot Dogs*, available at <http://whatscookingamerica.net/History/HotDog/HDIndex.htm> (last visited March 15, 2006).

[4] *Id.* (according to legend, on one occasion, as Cook Gaius prepared a customary dish for the Emperor, Gaius ran a knife through a pig’s stomach in order to see if the pig was fit to eat. When Gaius punctured the skin of the pig, out popped the intestines and they were all puffed up and hollow. Curious, Gaius reportedly took the intestines back into the kitchen and began to stuff the intestines with ground venison and ground beef mixed with wheat and spices. He then tied the intestines into sections, and in the eyes of some, the hot dog was born).

[5] *Id.* (Leontius is famous for documenting the popularity of the sausage and the use of mustard to complement it).

[6] National Hot Dog & Sausage Council, *History of the Hot Dog*, available at http://www.hot-dog.org/hd/hd_history.htm (last visited Mar. 15, 2006).

[7] *Id.*

[8] *Id.*

[9] Linda Stradley, *History of Hot Dogs*, available at <http://whatscookingamerica.net/History/HotDog/HDIndex.htm> (last visited Mar. 15, 2006) (it is said that the master sausage maker who made the first wiener received his training in Frankfurt, Germany, and it was this sausage maker that coined the phrase wiener-frankfurter).

[10] *Id.*

[11] *Id.*

- [12] National Hot Dog & Sausage Council, *History of the Hot Dog*, available at http://www.hot-dog.org/hd/hd_history.htm (last visited Mar. 15, 2006).
- [13] *Id.*
- [14] Jeffrey Stanton, *Coney Island - Food & Dining (1997)*, available at <http://naid.sppsr.ucla.edu/CONEYISLAND/articles/food.htm> (last visited Mar. 3, 2006).
- [15] National Hot Dog & Sausage Council, *History of the Hot Dog*, available at http://www.hot-dog.org/hd/hd_history.htm (last visited Mar. 15, 2006).
- [16] *Id.*
- [17] *Id.* (Chris Von de Ahe, known for his walrus mustache, owned a St. Louis Bar as well as the St. Louis Browns major league baseball team, now known as the St. Louis Cardinals. Von de Ahe thought it a novel idea to serve sausages with his already popular beer)
- [18] Linda Stradley, *History of Hot Dogs*, available at <http://whatscookingamerica.net/History/HotDog/HDIndex.htm> (last visited Mar. 15, 2006).
- [19] *Id.* (sausage vendors would sell their product outside the student dorms at major eastern universities, and their carts became known as "dog wagons." The name was a sarcastic comment on the source and quality of the meat. The October 5, 1895 edition of the Yale Record included a poem about "The Kennel Club," a popular campus lunch wagon which sold sausages in buns)
- [20] National Hot Dog & Sausage Council, *History of the Hot Dog*, available at http://www.hot-dog.org/hd/hd_history.htm (last visited Mar. 15, 2006).
- [21] *Id.*
- [22] *Id.*
- [23] *Id.*
- [24] *Id.*
- [25] *Id.*
- [26] *Id.*
- [27] *Id.*
- [28] *Id.*
- [29] *Id.*
- [30] *Id.*
- [31] *Id.*

[32] Linda Stradley, *History of Hot Dogs*, available at <http://whatscookingamerica.net/History/HotDog/HDIndex.htm> (last visited Mar. 15, 2006).

[33] *Id.*

[34] *Id.*

[35] *Id.*

[36] *Id.*

[37] *Id.*

[38] *Id.*

[39] *Id.*

[40] *Id.*

[41] *Id.*

[42] *Id.*

[43] *Id.*

[44] Wikipedia: The Free Encyclopedia, *Hot Dog*, available at http://en.wikipedia.org/wiki/Hot_dog (last modified Mar. 15, 2006).

[45] *Id.*

[46] *Id.*

[47] *Id.*

[48] National Hot Dog & Sausage Council, *How Hot Dogs Are Made: The Real Story*, available at http://www.hot-dog.org/hd/hd_made.htm (last visited Mar. 15, 2006).

[49] *Id.*

[50] *Id.*

[51] *Id.*

[52] *Id.*

[53] *Id.*

[54] *Id.*

[55] *Id.*

[56] *Id.*

[57] *Id.*

[58] Wikipedia: The Free Encyclopedia, *Hot Dog*, available at http://en.wikipedia.org/wiki/Hot_dog (last modified on Mar. 15, 2006).

[59] *Id.*

[60] *Id.*

[61] *Id.*

[62] *Id.*

[63] Hot Dog Chicago Style.com: The Search for the Perfect Hot Dog, *The Chicago Dog*, available at <http://www.hotdogchicagostyle.com/chicagodog.php> (last visited Mar. 15, 2006).

[64] *Id.*

[65] *Id.*

[66] *Id.*

[67] Wikipedia: The Free Encyclopedia, *Hot Dog*, available at http://en.wikipedia.org/wiki/Hot_dog (last modified Mar. 15, 2006).

[68] *Id.*

[69] *Id.*

[70] Wikipedia: The Free Encyclopedia, *Nathan's*, available at <http://en.wikipedia.org/wiki/Nathan%27s> (last modified Mar. 15, 2006).

[71] *Id.*

[72] Nathan's Famous: Since 1916, *In the News: 2005 Contest Results*, available at http://www.nathansfamous.com/nathans/contest/hot_dog_contest_2005_results.php (last visited Mar. 15, 2006).

[73] Nathan's Famous: Since 1916, *In the News: World's Top Eaters Compete for a Seat in Nathan's Famous July Fourth International Hot Dog Eating Contest*, available at http://www.nathansfamous.com/nathans/contest/index-pre_event.php (last visited Mar. 15, 2006).

[74] Wikipedia: The Free Encyclopedia, *Hot Dog*, available at http://en.wikipedia.org/wiki/Hot_dog (last modified Mar. 15, 2006).

[75] *Id.*

[76] *Id.*

[77] *Id.*

[78] *Id.*

[79] *Id.*

[80] *Id.*

[81] *Id.*

[82] *Id.*

[83] *Id.*

[84] *Id.*

[85] *Id.*

[86] *Id.*

[87] *Id.*

[88] *Id.*

[89] *Id.*

[90] *Id.*

[91] *Id.*

[92] *Id.*

[93] *Id.* (Pink's has been a Hollywood legend since 1939)

[94] *Id.*

[95] *Id.*

[96] Wikipedia: The Free Encyclopedia, *Dodger Dog*, available at http://en.wikipedia.org/wiki/Dodger_Dog (last modified Mar. 15, 2006).

[97] *Id.*

[98] Wikipedia: The Free Encyclopedia, *Hot Dog*, available at http://en.wikipedia.org/wiki/Hot_dog (last modified Mar. 15, 2006).

[99] *Id.*

[100] *Id.*

[101] *Id.*

[102] *Id.*

[103] *Id.*

[104] *Id.*

[105] *Id.*

[106] *Id.*

[107] *Id.*

[108] National Hot Dog & Sausage Council, *The Size and Scope of the U.S. Market for Hot Dogs – 2004*, available at http://www.hot-dog.org/facts/hd_market.htm (last visited Mar. 15, 2006).

[109] *Id.*

[110] *Id.*

[111] *Id.*

[112] *Id.*

[113] *Id.*

[114] *Id.*

[115] *Id.*

[116] *Id.*

[117] *Id.*

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[\[151\]](#) *Id.*

[\[152\]](#) *Id.*

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[\[155\]](#) *Id. See also*, 9 C.F.R. § 319.6 (2006).

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[\[157\]](#) *Id.*

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[\[161\]](#) *Id.*

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[\[163\]](#) *Id.*

[\[164\]](#) *Id.*

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